

ABSTRACT OF THE DISCLOSURE

A control method for controlling a speed of a movable machine element of a numerically controlled industrial processing machine with jerk limitation is described. The processing machine can be, for example, a machine tool, a production machine and/or a robot. A travel path of the movable machine element is first decomposed into a plurality of sequentially arranged, interpolatable travel sections. Jerk profiles are then determined for the interpolatable travel sections, which are modified with a parameter-dependent shape function. The modified jerk profiles provide a filter action that can be represented by bandpass filters having blocking frequencies. The blocking frequencies of the bandpass filters are selected so as to substantially correspond to characteristic frequencies of the machine element. The control method significantly improves the machine dynamics without sacrificing accuracy.